

WISCONSIN EPI EXPRESS

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[Wisconsin Department of Health & Family Services](#)

Division of Public Health
Bureau of Communicable Diseases

"Surveillance provides information for action." [World Health Organization](#)

The WISCONSIN EPI EXPRESS provides a regular update on communicable disease issues of importance in our state and is intended primarily for participants in the public health surveillance system. Please let us know if the topics covered are on target or if there are others that we should be addressing. Thank you. Herb Bostrom: bostrrh@dhfs.state.wi.us

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1. Planes, Trains, and Tuberculosis

The Wisconsin Tuberculosis Program was notified October 22, 2003 of a new case of tuberculosis. The patient was considered highly infectious at the time of diagnosis, with many acid-fast bacilli seen on sputum smears. Two months prior to her TB diagnosis, the patient was a passenger on a commercial airline flight from Paris to Chicago. Because of her smear status and chest x-ray cavitation, the patient was considered likely to have been infectious during the time of her flight.

A CDC study published in 1995 indicated the risk for *M. tuberculosis* transmission on an aircraft did not appear to be greater than in other confined spaces. Based on the evidence indicating low risk for transmission of TB on aircraft, need for notification of passengers and flight crewmembers are guided by three criteria. First, the person with TB was infectious at the time of the flight (symptomatic, AFB smear-positive, cavitary pulmonary or laryngeal TB). Second, exposure was prolonged (e.g., duration of flight exceeded 8 hours). Third, priority should be given to notifying passengers and flight crew who were at greatest risk for exposure based on proximity to the index passenger (typically defined as seating within 2 rows of the infectious passenger). For more information, go to http://www.cdc.gov/travel/tb_risk.htm

Quarantine officers at the O'Hare airport obtained the flight manifest and locating information for the passengers most at risk of exposure. The Wisconsin Tuberculosis Program notified the appropriate state TB programs about contacts in their jurisdiction-requiring follow-up. Initial interviews with patients newly diagnosed with TB should include a history of recent travel. Any flight lasting at least 8 hours should be reported to the TB Program for investigation

2. Tuberculosis in the College Setting

College life: learning, studying, partying, and *tuberculosis*? Local news around Wisconsin has reported cases of tuberculosis at Marquette University, Waukesha Technical College, and a "false-alarm" at UW-Parkside. Tuberculosis in a college setting is particularly problematic because of the potential for a large number of exposed persons, both real and imagined. Length and proximity of exposure are two important factors to consider when determining which contacts are at risk for infection. Students in a large lecture hall are far less likely to be exposed to the tubercle bacilli than roommates or study partners of an infectious person. Because infectious particles are expelled into the air when an infectious person coughs, speaks, sings, or sneezes; instructors with tuberculosis are more likely to pass TB to their students than vice versa.

Wisconsin averages one case of tuberculosis per year in a college setting. In order to avoid the ensuing panic that invariably occurs when a case is identified, colleges can be proactive in instituting targeted screening programs for those at risk. The American College Health Association (ACHA) recommends that TB screening is directed at high-risk students within 3 - 6 months prior to or after entrance into college (http://www.acha.org/info_resources/tb_statement.pdf). The Wisconsin Tuberculosis Program supports this ACHA guideline and encourages all colleges and universities in Wisconsin to incorporate these recommendations into the health services provided to students.

The Virginia Commonwealth University adopted the ACHA guidelines and developed its own tuberculosis screening and treatment program. The details of their program, including student assessment forms, are available at <http://ush1.ush.vcu.edu/tb/>

3. Influenza Talking Points (Health Departments)

Influenza Vaccination

- 1) Strongly encourage all county residents to get vaccinated. It is safe, effective and the best way to prevent influenza.
- 2) The production and distribution of influenza vaccine has allowed for sufficient vaccine supply for the 2003-2004 influenza season.
- 3) Influenza type A/Fujian, the predominant influenza virus circulating in the United States, is a variant of type A/Panama, one of the strains included in this year's vaccine.
- 4) Although vaccine effectiveness against A/Fujian viruses may be less than that against A/Panama viruses, it is expected that the current U.S. vaccine will offer some immunity against the A/Fujian strain and reduce the severity of disease.
- 5) It takes about two weeks to develop maximum protection after an influenza shot, so we urge people not to delay being vaccinated.

Influenza Disease

- 1) Nationwide, influenza viruses are more widespread than what is usual for this time of year.
- 2) The initial occurrences of influenza began approximately two weeks earlier than average in Wisconsin.
- 3) A strain of influenza not included in this year's vaccine, type A/Fujian (H3N2), is the predominant influenza strain seen among U.S. influenza cases so far this year. No cases of A/Fujian infection have been identified among Wisconsin residents; however, test results on early isolates of influenza from Wisconsin are pending.
- 4) Approximately 36,000 people in the United States and about 1,200 people in Wisconsin die from complications related to influenza.
- 5) There is no mechanism to accurately predict the severity of this year's influenza season. However, based on information from the CDC, there are early indications suggesting that this season may be more severe than in the previous three influenza seasons. Factors include:
 - In seasons when H3N2 strains have been predominant, disease has been more severe.
 - The past two influenza seasons were relatively mild. Rarely would we expect to see three mild influenza seasons in a row.
- 6) Influenza season in Wisconsin usually peaks in late January or early February.

4. Pertussis Outbreak in Fond du Lac County

Reported cases of pertussis in Wisconsin in 2003 are well above last year's total. During calendar year 2002 there were 187 reported cases. So far in 2003 there are 302 reported cases.

The primary reason for the increase is a persistent outbreak in Fond du Lac County that began in early summer and seemed to be under control. However, cases began reappearing in September. Since September 1, 83 confirmed or probable cases have been reported in Fond du Lac County. During this same time period other counties reporting cases include the following counties (and cases): Chippewa (1), Dane (10), Door (1), Eau Claire (1), Iowa (11), Jefferson (3), Juneau (2), Milwaukee city (2), Ozaukee (1), Richland (1), Rock (1), Walworth (2), Washington (2) and Waukesha (4).

Jeffrey P Davis, MD, Chief Medical Officer and State Epidemiologist emphasizes the importance of aggressive contact tracing, exclusion from work or school of suspect cases, and appropriate use of antibiotics in dealing with the FDL outbreak. In order to get ahead of the outbreak, attempts should be made to recognize and treat cases as early as possible, preferably in the catarrhal stage of the illness. Finally, do not lose sight of the importance of ensuring that infants and preschool age children are up-to-date with recommended doses of DTaP vaccine.

The recommended treatment schedule for pertussis is as follows:

Antibiotic	Age	Regimen
Erythromycin	Children	40-50 mg/kg per day orally in 4 divided doses in 14 days
	Adult	1-2 g/day , orally, in 4 divided doses for 14 days (max 2g/day)
Trimethoprim-sulfamethoxazole (TMP)	Children	Trimethoprim, 8 mg/kg/day and sulfamethoxazole, 40 mg/kg/day in two divided doses for 14 days
	Adults	Trimethoprim 320 mg/day, sulfamethoxazole 1600 mg/day in two divided doses for 14 days
Clarithromycin	Children and Adults	15-20 mg/kg/day, orally, in two divided doses for 7 days; maximum of 1 g/day for 7 days
Azithromycin	Children and Adults	10-12 mg/kg/day, orally, in one dose for 5 days; maximum of 600 mg/day for 5 days

5. Food and Waterborne Outbreak Investigation Team Strikes Again

In early November 2003, the Communicable Disease Epidemiology Section (CDES) was notified by the Wisconsin State Laboratory of Hygiene (WSLH) PFGE Department about a cluster of 12 *Salmonella* Newport with similar PFGE patterns by two enzymes. This was a multidrug resistance strain (MDR), showing resistance to 9 different antimicrobial drugs--Amoxicillin, Ampicillin, Cefoxitin, Ceftriaxone, Cephalothin, Chloramphenicol, Streptomycin, Sulfisoxazole, and Tetracycline---but was sensitive to Ciprofloxacin, Gentamicin, Naladixic acid, and Trimethoprim-Sulfamethoxazole. This was the second MDR *S. Newport* outbreak seen within two months.

All local health departments were alerted and a case control study was initiated. Cases were seen throughout eight Wisconsin counties---Milwaukee, Manitowoc, Shawano, Outagamie, Green, Pierce, Waukesha, and Monroe. The onset dates ranged from October 11 to October 22, 2003. Seven out of twelve were females, with an age range of 14 to 79 years (median 45). Cases have been interviewed with a longer questionnaire, including a 96-hour food history and a food preference list. Seventeen controls were interviewed using the same questionnaire. Statistical analysis showed a high significant association with shopping at a particular chain of grocery stores (A) in the above-mentioned area. Hamburger bought at grocery stores A, compared to hamburger bought at other chain of grocery stores, and had a higher association with reported illnesses.

Four out of 12 cases were hospitalized with illness ranging from 5-29 days. Four cases reported eating raw hamburger, including an elderly man who reported that the only thing he was able to chew was raw hamburger, due to denture problems. The most reported signs and symptoms were diarrhea, abdominal cramping and chills, bloody diarrhea, fatigue, sweats, fever, and muscle aches.

The success of this outbreak investigation was based on increased laboratory surveillance for *Salmonella*. *Salmonella* specimens from all WI laboratories should be

sent to WSLH for serotyping, PFGE, and susceptibility testing. In addition, CDES must be contacted as soon as possible, because delays in reporting can result in poor data collection, and impede epidemiologic investigation.

Largely due to the additional effort and assistance of the involved local health departments in conducting interviews, the CDES was able to link this outbreak to a possible source. The State Department of Agriculture and USDA were notified of the outbreak, and USDA issued an alert that can be viewed at (<http://www.fsi.usda.gov>).

6. Possible Cases of Influenza among Vaccinated Wisconsin Residents

The Bureau of Communicable Diseases has been notified of possible recent cases of type A influenza among vaccinated individuals in the state. Most of these individuals were diagnosed by rapid influenza tests and have not yet been confirmed by virus isolation.

As you are aware, the type A/Fujian/411/2002 (H3N2) strain of influenza, a drift variant related to the vaccine strain, A/Panama/2007/99 (H3N2) has been the predominant influenza strain circulating in the United States so far this season. While not included in the 2003-04 vaccine, antibodies produced against the vaccine virus cross-react with A/Fujian viruses, but at a lower level than against A/Panama (H3N2). Although vaccine effectiveness against A/Fujian viruses may be less than that against A/Panama viruses, it is expected that the current U.S. vaccine will offer some cross-protective immunity against the A/Fujian viruses and reduce the severity of disease.

Vaccine effectiveness depends, in part, on the match between vaccine strains and circulating viruses and cannot be determined by laboratory testing. To determine possible vaccine failures, the Bureau of Communicable Diseases is requesting throat swabs or nasopharyngeal (NP) swabs be collected from patients that meet the following criteria:

1. Have current influenza-like illness (ILI)* and the onset of illness was within 3 days, **AND**
2. Have received the 2003-04 influenza vaccine more than 14 days prior to symptom onset, **AND**
3. Are < 65 years old, **OR**
4. Regardless of age, are associated with a cluster ILI among residents of an institution (nursing home, CBRF, prison etc.)**

Specimens submitted to the Wisconsin State Laboratory of Hygiene (WSLH) will be transported and tested for influenza and other respiratory viruses at no charge. Specimen requisition forms must state "Virus Surveillance" and contain the patient's date of illness onset and the date of vaccination. Positive influenza cultures will be subtyped at the WSLH and may be sent to the Centers for Disease Control and Prevention (CDC) for strain characterization.

Questions should be addressed to Thomas Haupt, Bureau of Communicable Diseases at 608-266-5326 or e-mail at hauptte@dhfs.state.wi.us For laboratory consultation call the WSLH at 608-262-1021.

* ILI is defined as fever >100 F and a cough or sore throat

** No more than 5 specimens from a cluster of ILI among residents of an institution **should be submitted to the WSLH**

7. Reminder: Communicable Disease Reporting for 2003

As the busy 2003 holiday season is upon us, it is important to remember that all communicable disease reports (DPH form 4151) should continue to be submitted as soon as possible. Wisconsin Statute Chapter 252.05 and Administrative Rule Chapter HFS 145 require the reporting of about 80 communicable diseases to the Wisconsin Division of Public Health.

Another point to remember is that every state needs to provide aggregate numbers for all reportable diseases occurring in its jurisdiction in 2003 to the Centers for Disease Control and Prevention (CDC) by March 31, 2004. To insure that Wisconsin has the time necessary to enter all data and forward CDC the most accurate numbers possible, **we need all completed or corrected 4151s from 2003 submitted by Friday, March 5.**

It is important that the numbers Wisconsin provides to CDC give a thorough, clear, and accurate picture of disease in Wisconsin. Though CDC funding is not tied to the reporting of these numbers, it certainly seems that the aggregate number of cases reported impacts attention given to particular diseases, programs and states.

Telephone Reporting of Unusual Disease Occurrences

Occurrences of diseases that are uncommon or atypical in Wisconsin, and outbreaks or clusters of disease which are identified, should be reported by phone as soon as possible, to (608) 258-0099. Reports may be made to this number on a 24/7 basis, but please do not use it for normal and routine disease reporting

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